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New Patterns in China's Rural Poverty*

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Abstract

The purpose of this chapter is to analyze the structure of rural poverty in China. Based on data from the China Household Income Project (CHIP) in 1988, 1995, 2002, 2007, and 2013, we analyze: 1.) Anti-poverty trends and problems during the recent three decades. 2.) The structure of poverty during the recent period in comparison with previous periods. We consider those factors that may raise household income; those factors that may reduce household consumption expenditures; and other factors related to the poverty alleviation goals. We conclude that along with a reduction in the absolute poverty rate, the poverty gap increased after 2007, and the relative poverty rate continued to increase. Furthermore, according to an analysis of the reasons for poverty, we discover some positive effects of the rural social security policies on household characteristics in 2007. However, health problems among the elderly, among children below the age of 15, and among disabled adults continue to exist.

Keywords: poverty structure; absolute poverty rate; relative poverty rate

JEL Classification: D31, I32, P25, P36

I. Introduction

Since the Chinese reform and opening-up policies, the number of persons living in poverty and the rate of poverty in China have declined dramatically, thus improving global anti-poverty work. After promulgation of the policies of the "National Eight-Seven Poverty Alleviation Program (1994-2000)" (*Guojia baqi fupin gongjian jihua* [1994–2000]) and "China's Rural Poverty Alleviation and Development Project (2001–2010)" (*Zhongguo nongcun fupin kaifa gangyao* [2001–2010]) (Zhonggong zhongyang and Guowuyuan 2011), in 2010 the Chinese Government released the "China's Rural Poverty Alleviation and Development Project (2011-2020)," with the goals of "achieving stability so that there will be no worries about food and clothing, and guarantees for compulsory education, basic medical care, and housing" (*liang bu chou, san baozhang*) by 2020. In 2015 Chinese government released its "Decision on Winning the Anti-Poverty Battle" (*Guanyu daying tuolu gongjianzhan de jueding*), further supplementing the goal of "ensuring that all rural subjects will escape poverty under current standards" (Zhonggong zhongyang and Guowuyuan 2015). Regarding specific actions, the "five measurements" (*wuge yipi*) were raised by President Xi Jinping at the Poverty Reduction and Development Forum on October 16, 2015. However, after more than two decades of efforts, the structure of poverty has changed and the difficulty of anti-poverty work has gradually increased (Datt and Chaudhuri 2000). To achieve the goals for 2020, we need to better understand current poverty patterns.

With respect to the current poverty patterns, there are two key issues: first, the geographical distribution of poverty has become more dispersed than it was during the early stage of reform and opening, when most of the rural population was living in poverty. The result is that poverty targeting now faces new challenges. The targets of the poverty alleviation policies must be more

precise. Second, the Chinese economy is now the second largest economy in the world, and economic conditions, the economic structure, and government efforts to implement rural social security are much different than they were thirty years ago. There are now more options for anti-poverty policies. Against this background, we must have a better understanding of poverty achievements and difficulties vis-à-vis the problems in the past.

The Chinese government, the World Bank, and independent researchers have estimated China's poverty rate. The World Bank has released a poverty index for more than 100 countries, but China's poverty indices are grouped according to consumption rather than according to the original micro-data.[1] Furthermore, the World Bank only reports national, rather than rural, poverty indices. According to these national data and the poverty level of US$1.9 per day, the proportion of the Chinese population living in poverty to the world's total declined from 43.95 percent in 1981 to 9.75 percent in 2012 (Wang 2012). Obviously, China has made remarkable achievements in the recent thirty years.

For rural areas, the Chinese government has released estimates of annual poverty rates,[2] but it has not released comparable estimates for the 1980–2010 period, especially the earlier years. Using a subsample of the Rural Household Survey of the National Bureau of Statistics (NBS) Ravallion and Chen (2007) have estimated the poverty rates from 1980 to 2001 based on an annual poverty level of 850 yuan per person at 2002 prices; and Chen and Ravallion (2008) have estimated the poverty rates from 1980 to 2005 at US$1.25 per day and at US$2 per day. The standard of 850 yuan at 2002 prices is a little less than the low poverty level in this chapter.[3] According to this standard, the poverty rates were 75.7 percent in 1980, 23.15 percent in 1988,

[1] See the description of China's poverty headcount ratio at data.worldbank.org. Accessed April 12, 2017.
[2] See Table A6.1 and Figure 6.1.
[3] See Table 6.1.

and 12.5 percent in 2001. Recent additional research has also estimated China's level of poverty. Luo and Sicular (2013) calculated the poverty rates in rural China for the years 2002 to 2007 based on the standard of US$1.25 per day, or 1,196 yuan per year, at 2008 prices, and at two relative poverty levels—50 percent of the median income and 60 percent of the median income. This study is one of the few academic efforts that estimates China's relative rural poverty. Based on additional national survey data, Zhang et al. (2014) have estimated China's poverty rates in 2009 and 2010. Their micro-data include independent surveys: the China Family Panel Survey (CFPS), the Chinese General Social Survey (CGSS), and the China Household Finance Survey (CHFS). They find that the poverty rates calculated using data from these independent surveys are higher than the official rates.

Based on the background of China's poverty alleviation efforts and the findings in the existing literature, this chapter uses data from various years of the CHIP survey to analyze the new poverty patterns in China and to discuss the implications for current and future poverty alleviation work in China. We ask two principal questions: 1.) What are the features of the population living in poverty during the current period? 2.) What are the current reasons for poverty today and how do they differ from those in the past?

The next section will introduce the poverty standards, evaluation approaches, and the CHIP data. The third section will report on the distribution of poverty in China based on Chinese official data and the CHIP data. Section 4 presents the structure of poverty during the various periods. Section 5, based on a probit regression model, examines the principal factors associated with poverty. Finally, Section 6 presents our conclusions.

II. Background and Evaluation Approaches

A. Poverty Standards

All China's official poverty standards, including the 1978 standard, the 2008 standard, and the 2010 standard, are absolute poverty standards (Wang 2015). These official poverty standards are based on 625 yuan per year at prices in the year 2000, 1,196 yuan per year at prices in the year 2008, and 2,300 yuan per year at prices in the year 2010. We call these poverty standards the "dire poverty level," the "low poverty level," and the "new poverty level," respectively. The NBS has also calculated poverty levels for some other years using a consumer price index (CPI) for rural poor households. These poverty estimates are reported in the *Chinese Household Survey Yearbook* and the *Chinese Rural Poverty Monitoring Report*. However, the NBS has not released details about the calculation process. In the 2015 *Chinese Rural Poverty Monitoring Report* the current poverty standard is equal to 60 percent of the cost of food (Wang 2015).

Based on this information, we thus define a "Chinese Rural Poor household Consumption Price Index (CRHCPI)" which is equal to: Rural CPI × 0.4 + Rural Food CPI × 0.6.[4] The rural food CPI is not published prior to 1996, so for earlier years we replace it with the national food CPI. Using the CRHCPI, we derive the poverty standards in the other years, as reported in Table 6.1.

In terms of international comparisons, the accepted standards have been introduced by World Bank. In 2008, based on the average poverty levels in the fifteen poorest countries, the World Bank formulated a global poverty standard of US$1.25 per day. This indicates a basic subsistence level, referring minimal expenditures for basic food and basic non-food needs (Wang 2015). The US$1.25 and US$2 per day figures are based on the 2005 PPP. In December 2015

[4] The NBS employs a similar method to adjust the poverty levels in different years. Unfortunately, we do not have information about its calculation process. Our approach may create some errors. But it is still better than using the rural CPI or the national CPI, and it should be closer to the NBS approach.

World Bank updated the two standards to US$1.9 per day and US$3.1 per day according to the 2011 PPP exchange rates from the 2011 International Comparison Program.[5] Using the 2011 PPP and China's CPI,[6] we arrive at the values for the other years (see Table 6.1). For consistency with the NBS poverty standards, we also use the CRHCPI as the price deflators

In addition, this chapter considers the relative poverty standards, which place more emphasis on the households' relative income levels rather than on absolute income or basic food and clothing needs. Relative poverty standards do not consider basic needs and so implicitly assume that basic needs do not define poverty. When the level of real income in a society has increased sufficiently so that basic needs are met for virtually all of the population, the relative poverty level is useful and targets a more important segment of the population. Thus, as income levels grow relative poverty standards become more relevant. Based on other research, we use 50 percent of the median income levels.

[Table 6.1 about here]

B. Evaluation Approaches

The evaluation criterion in this chapter is the FGT index (Foster, Greer, and Thorbecke 1984):

$$\mathrm{FGT}(\alpha) = \frac{1}{n}\sum_{i-1}^{q}\left(\frac{z - y_i}{z}\right)^{\alpha}$$

[5] Following Ferreira et al. (2016), the World Bank began to use US$1.9 per day and US$3.1 per day. See http://iresearch.worldbank.org/PovcalNet/index.htm. Accessed January 10, 2017.

[6] The process: 1.) Adjust the US$1 in 1993 to the value in 2011 by the CPI in the United States; 2.) Exchange the value to RMB by the 2011 PPP; 3.) Adjust the values in the other years by using the CPI of China's rural population. In 2011, the PPP (actual individual consumption) in China was 3.696 (yuan per US$), according to the World Bank data at http://data.worldbank.org/country/china. Accessed January 10, 2017. The PPP (actual individual consumption) in China in 2005 was 4.087 (yuan per US$), according to the World Bank data at http://data.worldbank.org/country/china. Accessed January 10, 2016; and the United Nations MDG Indicators at http://unstats.un.org/unsd/mdg/Default.aspx. Accessed January 10, 2017.

in which q is the number of people below the poverty standard, z is the poverty standard (or the poverty line), y_i is the income of person i, and α is the poverty aversion coefficient. The larger the value of α, the greater the aversion to poverty, or the more weight is placed on low-income individuals. If α=0, $FGT(0)$ is the poverty rate that is usually reported in the literature;[7] if α=1 or 2, $FGT(\alpha)$ indicates the size of the poverty gap. $FGT(1)$ is sometimes is called the poverty gap, and $FGT(2)$ is sometimes called the squared poverty gap or the weighted poverty gap. Compared to FGT(0), FGT(1) considers the income gap between the per capita income of poor households and the poverty line; compared to FGT(1), FGT(2) gives higher weights for lower per capita income. Therefore, if the per capita incomes of most of the poor households are concentrated near 0 and far below the poverty line, the poverty gap and the squared poverty gap will be very large. In other words, larger values for FGT(1) and FGT(2) mean that extreme poverty is higher.

C. Rural Data

We use the data from the 1988, 1995, 2002, 2007, and 2013 waves of the CHIP surveys. The target variable for our calculations is per capita household income. Some chapters in this volume use the CHIP income definition, which includes imputed housing income and in-kind subsidies. Since the poverty standards of the NBS and the World Bank do not consider these additional components, in this chapter we use the NBS income definition.

For the analysis of poverty trends we use all five waves of the CHIP survey data, but we use only the 2002 CHIP and the 2013 CHIP for the relationship analysis and the causal analysis. There are three reasons for this: 1.) The questionnaires for the 1988 CHIP and the 1995 CHIP

[7] In this chapter, we use the term "poverty rate" to mean the "poverty headcount ratio."

were quite different from the other questionnaires. 2.) There are two parts to the 2007 CHIP: 8,000 households in the CHIP questionnaire and 5,000 households selected from the NBS database. Together the two parts of the survey are nationally representative, but each part is not nationally representative. Unfortunately, the main household information, except for income and expenditures, in these two parts is different. 3.) The Chinese government issued the National Program for Rural Poverty Alleviation (2001–2010) in 2001 and the National Program for Rural Poverty Alleviation (2011–2020) in 2011. The analysis based on the data from the 2002–2013 CHIP can be used as a reference to evaluate the practical effects of the poverty alleviation policies during this initial period of the new century.

We also consider interregional price disparities and adjust the normal income values by the regional PPP in each year. The adjusted results are compared to the normal results to provide two pieces of additional of information: 1.) When the regional price differences are removed, how are the poverty rate and poverty gap affected? 2.) What is the impact of interregional price disparities and their trends on the overall poverty situation? Brandt and Holt (2006) gives estimates of the 1990 PPP and the 2000 PPP indexes.[8] We adjusted the 2000 PPP to 2002, 2007, and 2013 by the provincial rural CPI. However, we did not find the provincial rural CPI for the years prior to1996. Thus, we assume the 1988 PPP to be equal to the 1990 PPP and the 1995 PPP to be equal to the average of the 1990 PPP and the 2000 PPP.

III. Poverty Distribution

A. Poverty Trends in the Recent Thirty Years

After China's reform and opening policies, the population living in poverty and the rate of

[8] It is regrettable that we cannot locate regional price data close to the year 2013. When we use the regional CPI adjusted to the 2000 PPP for the 2013 PPP, we will inevitably encounter some errors.

poverty both decreased significantly. Figure 6.1 shows the official poverty statistics over time. According to the earliest official poverty standard (the "dire poverty level" in this chapter), the incidence rate of rural poverty fell from 30.7 percent in 1978 to 1.6 percent in 2007. In 2008 the Chinese government raised the poverty standard to 1,196 yuan per year (the "low poverty level" in this chapter). The poverty rate at this new standard was 10.2 percent in 2008 but it decreased to 2.8 percent in 2010. In 2011 the poverty standard changed to 2,300 yuan per year at 2010 prices (the "new poverty level" in this chapter). The poverty rate at this new standard became 17.2 percent but by 2015 had decreased to 5.7 percent. No matter which standard is used, the population living in poverty declined dramatically. It should be noted that this decline slowed down from 2010 to 2014 but then accelerated in 2015, in which year 14.42 million persons escaped poverty and the poverty rate declined by 1.5 percentage points. Based on the 2010–2014 trends, the reduction in 2015 can be considered amazing. The main reason is the government's strengthening of its poverty alleviation efforts in 2015, for example, with the "Five Measurements" program (*wuge yipi*) introduced by President Xi Jinping.

Because of the changes in the official poverty standards, we cannot arrive at trends in comparable poverty rates during the past thirty years from the official public data. Furthermore, the incidence of poverty does not reveal details about the distribution of people living in poverty. Therefore, based on the CHIP data we re-computed some comparable evaluation indexes during different periods. The results are shown in Table 6.2 and Table 6.3.[9] These are helpful to understand the current poverty situation from a retrospective perspective. The following are our main findings.

1.) The number of people living in poverty declined substantially from 1988 to 2013, but the

[9] Because the estimated sample is different from that of the Chinese government, the poverty rates in each year are different from the official rates. But the structural characteristics and trends are almost same.

poverty gap did not continue to decline. Based on the World Bank's poverty standards, the poverty rates were 76.5 percent at the poverty standard of US$1.9 per day in 2011 PPP, and 93.8 percent at the higher poverty standard of US$3.1 per day in 2011 PPP. After twenty-five years, these poverty rates changed to 8.9 percent and 22.8 percent, respectively. The decline in the rate of dire poverty was about 2.8 percentage points per year, but the decline has slowed down over time, especially in the last ten years. This indicates that most of the decline in poverty was largely a reflection of improved circumstances for the population living between the extreme poverty standard and the high poverty standard. Solving the poverty problem for the many people still living in extreme poverty has been more challenging. Moreover, the squared poverty gap increased in 2007 and 2013. The estimates based on the NBS poverty standards give the same results.

2.) The difficulties of anti-poverty work have gradually increased. Except for the poverty level of US$3.1 per day, for all other poverty levels the features are similar: the speed of poverty reduction from 1988 to 2002 was rapid, whereas it was very slow from 2002 to 2013, According to the new poverty level, the annual decrease in the poverty rate was 3.2 percentage points from 1988 to 2002, and only 1.8 percentage points from 2002 to 2013. The poverty gap and the squared poverty gap reveal similar features. However, this does not indicate that the Chinese government's poverty reduction efforts have weakened. In fact, maintaining a speed of poverty reduction of 2 percentage points for over ten years can be considered an impressive achievement. As the population living in poverty is reduced, most of the remaining people living in poverty are those extremely poor households whose geographical distribution is dispersed and who are extremely difficult to lift out of poverty. Thus, they present huge challenges to anti-poverty work during the new period.

3.) With respect to relative poverty, the poverty rate increased during the recent three decades. According to the results of our calculations, the relative poverty rate was only 11.5 percent in 1988 but it was 17.0 percent in 2013, and during each period it continued to increase. Both the relative poverty gap and the relative squared poverty gap, increased after 2002. Before 2007, the absolute poverty rate of the new poverty level was very high, so relative poverty was not the core problem. But after 2013, the absolute poverty rate was gradually reduced, and the relative poverty rate gradually grew higher, indicating the direction for future poverty alleviation work. In terms of solving the absolute poverty problem, the main goals of anti-poverty programs in the future should focus on improving the situation of those living in relative poverty so that the entire national population will enjoy similar benefits.

[Figure 6.1 about here]

[Table 6.2 about here]

[Table 6.3 about here]

B. Geographical Distribution

Because of the development gap among the different regions, geographical differences among the population living in poverty are expected. Table A6.2 and Table A6.3 report the poverty rates during the different periods and in the different regions.

Regional Poverty Disparities

Figure 6.2 shows the provincial poverty rates and log per capita GDPs in 2014. In total, there exists a negative relationship between the poverty rate and the log per capita GDP: the poverty rate is higher at a lower level of economic development. We can roughly classify the provinces into five groups: 1.) Highest poverty rate and lowest economic level, including Tibet, Gansu,

Guizhou, and Yunnan; 2.) Relatively high poverty rate and relatively low economic level, including Guangxi, Qinghai, Shaanxi, Shanxi, Ningxia, Hunan, Hubei, Hainan, Jiangxi, Anhui, Henan, Heilongjiang, Hebei, Chongqing, and Jilin; 3.) Relatively low poverty rate and relatively high economic level, including Inner Mongolia, Liaoning, Shandong, Fujian, Guangdong, Jiangsu, and Zhejiang; 4.) Zero poverty rate and highest economic level, including Beijing, Tianjin, and Shanghai; 5.) Special provinces that do not fit the general pattern, only Xinjiang province with almost the highest poverty rate and a relatively low economic level. The various groups face different situations and require different anti-poverty strategies. Almost all the Western provinces are classified in Group 1, Group 2, and Group 5Gansu, Guizhou, and Yunnan are still the main poverty strongholds. Because Xinjiang province faces a complex ethnic problem, difficulties of anti-poverty work are further exacerbated.

The CHIP results in Table 6.4, Table A6.2, and Table A6.3 reveal more information about 1988 to 2013, including results based on other poverty standards. With respect to the different poverty levels, the Western poverty rates are 1.5 times higher than the Eastern rates, and the Central poverty rates are about 1 time higher than Eastern rates.

Trends in Poverty Reduction

The speed of poverty reduction in the Eastern and Central regions was faster than that in the Western region before 2002, whereas the Western region was faster than the other regions after 2002. According to results for the new poverty standard, the annual decline in the Eastern region from 1988 to 2002 was about 2.91 percentage points, but it was reduced to 1.13 percentage points from 2002 to 2007 and then to 0.82 percentage point from 2007 to 2013. However, the speed in the Western region was 2.44, 3.81, 2.86 and 3.03 percentage points during the four

periods. The results based on the poverty standard of US$1.9 per day reveal the same phenomenon. There may be two reasons for this: 1.) During the early periods, the government emphasized development in the Eastern region, resulting in an increase in the income of Eastern residents. 2.) During the early periods, the main purpose of the poverty alleviation projects was economic development, thus benefiting the middle-low-income residents more than the extremely low-income residents who were mainly concentrated in the Western regions. With respect to the latter, until the beginning of the new century we find some evidence that coverage of the pension system and medical insurance in the rural regions was far below that in the urban regions. Meanwhile, the agricultural tax was not abolished until 2006 (Luo and Sicular 2013). During the first ten years of the new century, with the abolition of the agricultural tax, the strengthening of the rural minimum living security system, and promotion of many transfer policies, the speed of poverty reduction in the Western region that could not benefit from economic growth was accelerating.

Poverty Gaps in Different Regions

The squared poverty gaps in the Eastern and Western regions are relatively high, and extreme poverty problems are mainly concentrated in the Eastern and Central regions. At the poverty standard of US$1.9 per day, the FGT(2) is 14.2 percent and 19.2 percent in the Eastern and Western regions, respectively. One likely reason for the fairly high squared poverty gap in the Eastern region is that the benefits of economic development in the Eastern region did not adequately reach the extremely poor households. In the Western region, a likely reason was the special characteristics of many Western households that weakened the effects of poverty alleviation programs. For example, many minority nationalities reside in the Western region and

some of their habits and customs are quite different from those of the people living in the Eastern region.

Relative Poverty Rates in Different Regions

Most relative is concentrated in the Western region, where the rates of relative poverty have not changed significantly during the last three decades. In contrast, the relative poverty rates in the Central region increased dramatically: from 1995 to 2013 annual growth was about 0.06 percentage point. At the same time, annual growth in the relative poverty rate was only 0.13 percentage point in the Eastern region. The trend in the relative poverty rate in the Western region was less clear, since the relative poverty rate increased from 1988 to 1995 and from 2002 to 2007, but decreased during the other periods. When the policy emphasis changed to relative poverty, the Western and Central regions remained the focal points.

[Figure 6.2 about here]

[Table 6.4 about here]

C. The Impact of Regional Prices

When we consider regional prices and adjust household income by the regional PPP indices, in some years the poverty rates have changed considerably. We call these the "adjusted poverty rates," as opposed to the previous unadjusted poverty rates. Most of the adjusted poverty rates are higher than unadjusted rates. In 2013 the former were about 21 percent higher than the latter, especially in the Western region where the gap between the two was about 27 percent (Table 6.5).

Why are most of the poverty rates higher after adjusting for the regional prices? The reason is that some low-income provinces have higher prices. Figure 6.3 and Figure 6.4 examine the

relationship between regional PPP price index and per capita GDP and between provincial PPP and per capita income. The regional per capita GDP was reported by NBS, and the provincial per capita income was calculated using the CHIP data. Regardless of which indicator is used to reflect the level of regional development, they reveal a similar phenomenon whereby the PPP index in some low-income provinces such as Gansu and Shaanxi is higher than that in other provinces. We also fit a cubic polynomial curve for the data in each year and drew show the curve in the figures. It is very clear that these curves assumed a “U-shape” in 2002 and 2013, especially in 2002, whereas it was not significant in 1988. The consequence of this phenomenon is that the gap between the adjusted poverty rates and the unadjusted poverty rates has been increasing during the past thirty years. When we divide the country into Eastern, Central, and Western regions, we find the gaps in the Western region to be more serious.

However, the adjusted squared poverty gaps produce a different outcome. We report the results of FGT(2) in the table. The trend in the ratios between the adjusted squared poverty gaps and the unadjusted squared poverty gaps was greater than 100 percent in 2002 but less than 100 percent in 1988 and 2013. The ratio of the adjusted versus unadjusted squared poverty gap was lower than 100 percent, but the ratio for the poverty rate was higher than 100 percent, indicating that the extremely low-income households had a lower PPP whereas the less extremely-low-income households had a higher PPP. This situation appears in 2013 but not in either 2002 or 2007. In about 2002, regional prices of most of the extremely low-income households were still very high. This trend was more obvious in the Western area. It may be a consequence of the economic development and poverty alleviation programs during the recent ten years. This result requires further analysis.

[Table 6.5 about here]

[Table 6.6. about here]

[Table 6.7 about here]

[Figure 6.3 about here]

[Figure 6.4 about here]

IV. Further Analysis of Rural Poverty

A. Income Sources in Poor Households

Table 6.7 reports the income sources in poor and non-poor households in 2002 and 2013. Three findings emerge: 1.) The proportion of primary industry net business income was very high in the poor households, and far higher than that in the non-poor households. In particular, in the Western region this proportion reached 67 percent. 2.) The proportion of wage income in poor households was generally lower than that in non-poor households. A related problem is that fewer retirement payments covered the low-income households. Since on occasion the amount of the retirement payments was relatively high, the effect on reducing poverty could be huge (see Table 6.8). By increasing the job stability and wage income of low-income laborers, poverty seemed to decline permanently. 3.) Compared to 2002, transfer income in 2013 was much larger. The transfer income includes both private transfers and public transfers from the government. The proportion of transfer income for poor households increased from almost 0 percent in 2002 to 20 percent in 2013. According to the estimation by Li et al. (2016), in 2013 private transfers reduced the poverty rate by 12 percentage points and public transfers reduced the poverty rate by about 4 percentage points (see Table 6.8). To some extent, government efforts to alleviate poverty have been effective.

[Table 6.8 about here]

[Table 6.9 about here]

B. Factors Related to Rural Poverty

After three decades of anti-poverty efforts, who are the people who are still living in poverty? We divide the sample households into two groups—poor households and non-poor households—based on the new poverty level (2,300 yuan per year at 2010 prices). We then observe the differences in their household characteristics (see Table 6.9). Household characteristics include three features: 1.) Those that may reduce household income; 2.) Those that may raise consumption expenditures; and 3.) Those related to the goals of "not worrying about food and clothing and guaranteeing compulsory education, health care, and housing" (*liang bu chou, san baozhang*). The first feature contains the laborers' average education level health status, disabilities, and work, and the geographical conditions and so forth. Among these, health problems or disabilities will reduce the number of laborers and thus reduce the income level; long distances to the nearest county town or to important stations/ports will reduce opportunities to find better jobs; based on the empirical literature, non-agricultural work or outside work will raise the labor income levels. The features that may increase consumption expenditures include the household structure, for instance the proportion of elderly or of children; diseases that may result in an increase in medical expenditures; education that may increase burdens for educational expenditures. In addition to these features, there are also others related to the recent poverty alleviation goals. We use "housing status" as a proxy indicator.

Factors That May Reduce Household Income

Differences in household characteristics between poor and non-poor households are evident.

Labor status is a key factor impacting household income. According to the statistical results, the health scores of laborers in poor and non-poor households are similar. But in poor households the labor participation rates in poor households, share of people with disabilities between the ages of 16 and 60 in poor households, and share of unhealthy members between the ages of 16 and 60 in poor households fared worse than in non-poor households in 2002 and 2013. The labor proportion of poor households was about 94 percent of the non-poor households in 2002, but this figure decreased to 90 percent in 2013. Furthermore, poor households with people with disabilities between the age of 16 and 60 increased from 4.77 percent in 2002 to 5.83 percent in 2013, whereas the comparable figure for non-poor households decreased 0.2 percentage point. Similarly, the number of poor households with unhealthy members between the ages of 16 and 60 increased about 2 percentage points between 2002 and 2013, which was twice that of non-poor households. The average years of education of laborers in both poor and non-poor households increased by about 0.4 years between 2002 and 2013; the ratio of the former to the latter remained at about 90 percent. In terms of basic characteristics of the household members, it is important to remember that rural poor households may lack a sufficient number of effective laborers.

In the villages, 34.9 percent of the poor households in 2013 were located in the mountainous regions, about 1.57 times that of the non-poor households. Almost all villages had access to roads, but the poor households were located farther away than the non-poor households from the county towns and stations/ports. Furthermore, about 18 percent of the poor households were in villages that lacked health clinics, about 5 percent more than the non-poor households. Because of their inferior conditions, poor households had fewer opportunities to earn higher incomes.

Migrant work or non-agricultural work can raise the income earnings of rural residents. Between 2002 and 2013, the migration rate of rural laborers increased, among which the rate of migrant laborers from poor households increased from 25.49 percent to 57.55 percent and the comparable figures of migrant laborers from non-poor households were 28.57 percent to 34.86 percent respectively. Because of household structural changes, the rate for poor households was higher than that of non-poor households in 2002, but lower in 2013. The ratio changed from 89 percent to 165 percent, both of which are statistically significant. Among the households with migrant laborers, most of the laborers worked in other provinces, and the rates for poor households were higher than those for non-poor households in 2002 and 2013. However, the rate of poor households with "inside the province and outside the county" migrant laborers increased dramatically, from 8.21 percent in 2002 to 21.60 percent in 2013, higher than that for non-poor households in 2013. The rate of poor households with "inside the county and outside the town" migrant laborers increased as well but less than that of non-poor households. It is obvious that there was an increasing trend of within-province migration.

In terms of non-agricultural work, the rates of participation of poor households were significantly lower than those of non-poor households, and the gap between the two increased from 2002 to 2013. Furthermore, the rates of households with agricultural wages decreased significantly, at about 17 percentage points, whereas the rates of households with business income increased from 4.83 percent in 2002 to 11.03 percent in 2013. In other words, the rate of households with business income increased substantially but the rate of households with agricultural wages did not change very much.

Factors That May Raise Consumption Expenditures

According to the CHIP results, the household size, proportion of children, and proportion of elderly in poor households were all higher than those of non-poor households in 2002 and 2013. The gap did not change much between these two years. The proportion of children between the ages of 0 to 16 in poor households was about 24.5 percent and 4.5 percent more than that in non-poor households. There was a smaller difference in terms of the number of elderly. But the aging problem is significant and serious; among the poor households, the proportion of elderly increased from 9.09 percent in 2002 to 13.02 percent in 2013, and among the non-poor households the proportions increased from 7.77 percent to 12.08 percent. During the current period, retirement in the rural areas is becoming an increasingly important problem.

The growing proportion of elderly is especially serious among the disabled and unhealthy populations. In poor households, the proportion of households with disabled elderly grew from 2.20 percent in 2002 to 3.02 percent in 2013; at the same time, the proportion of households with unhealthy elderly grew from 10.97 percent to 18.22 percent. Both figures nearly doubled between these two years. Furthermore, the gaps between the poor and the non-poor households were huge. In 2002 the proportion of poor households with disabled elderly was 2.40 times more than that of non-poor households. Even though the figure decreased to 1.35 times in 2013, it still was very large and significant. Among households with unhealthy elderly, the proportion in poor households increased from 2002 to 2013 whereas the proportion in non-poor households decreased somewhat. The ratio between the two changed from 1.55 times to 1.76 times.

The phenomenon of disabled children was not common in the sample, but the proportion of such children in non-poor households decreased substantially, indicating improvements in medical conditions. In contrast, the proportion in poor households did not change much. Obviously, this will increase relative expenditures in poor households.

Other Factors Related to the Policy Objects

Housing status is another factor related to the government goals (*liang bu chou, san baozhang*). According to the 2002 and 2013 CHIP results, the proportions of "brick or mud houses" for poor households decreased from 72.10 percent in 2002 to 41.43 in 2013, and for non-poor households it decreased from 63.44 percent to 33.33 percent. But the gap between poor and non-poor households was still very large. The proportion of "brick or mud houses" among poor households was 1.13 times that of non-poor households in 2002, and this proportion increased to 1.24 times by 2013. During the recent decades, non-poor households have benefited more than poor households from the housing policies.

[Table 6.10 about here]

V. Statistical Significance of Factors Related to Poverty

A. Approach

In a statistical sense, which variables are related to poverty status when other conditions are controlled? The answer to this question will be helpful in choosing the correct direction for future poverty alleviation projects. In this section, we create a probit model to come up with an answer to this question based on the 2002 and 2013 CHIP data. With respect to the close relationship between "disabilities" and "being unhealthy," we design two models: models (1)–(3) contain the explanatory variables "household with disabled elders" and "household with disabled children," but they don't contain the explanatory variables "household with unhealthy elders" and "household with unhealthy children"; models (4)–(6) contain the latter but not former.

Our main approach to identify the key reasons is a probit regression model which can

determine the average impact of independent variables on the probability of poverty. The formula for the model is the following:

$$\Pr(\mathrm{Y} = \text{poverty}|X) = \Phi(\beta_0 + \beta_1 \cdot X + \mu)$$

Where $\Phi(\cdot)$ is the cumulative distribution function (CDF) of a standard normal distribution for transforming the standard marks into probabilities. X indicates the independent variables that may impact the probability of poverty. $\Pr(\mathrm{Y} = \text{poverty}|X)$ indicates the conditional probability of poverty. The estimated values of the coefficients do not have precise economic meanings, but our emphasis is on their statistical significance, meaning the total importance of each variable in terms of causing poverty during a specific period.

For consistency with the previous discussion, we focus on the first two groups of factors that may impact poverty status. Theoretically, the third group, "housing status," is merely the result of poverty but not the reason for poverty. But we still use this variable as a control variable. Another control variable is the province. The main estimated results are reported in Table 6.10. Additional results are found in Table A6.6 and Table A6.7.

B. Results

Factors That May Reduce Household Income

In general, the impact of the average number of years of education of household laborers, the proportion of laborers, and the health status of household members between the ages of 16 and 60 are significant; the probability of poverty in households with non-agricultural laborers will be lower and households living in mountainous areas are more likely to be living in poverty.

The number of effective laborers in a household obviously impacts the income level. As the average years of education increased by one year, the probability of poverty decreased by 0.025

in 2002 and by 0.003 in 2013. Even though the marginal effect decreased dramatically, they were both still statistically significant. After adding the variables indicating the development conditions, the effect of education will decrease somewhat. Among the variables indicating the development conditions, “Land conditions: Mountainous” is significant, indicating that a low level of education in a mountainous area is one of the most important reasons for poverty. If there was a “Clinic Existing in the Village,” it was significant in 2013. The probability of poverty in a village without a clinic increased by 0.014. This does not mean that the probability of poverty will be immediately reduced after adding a clinic in the village. The causal relationship between the medical situation and poverty has a long-term gradual effect.

The higher the proportion of the labor force in the household, the lower the probability of poverty in both 2002 and 2013. The coefficients in both years were significant and the marginal effects were very high, –0.075 in 2002 and about –0.050 in 2013. Furthermore, the variable “households with disabled members between the ages of 16 and 60” was significant in 2013. Household members between the ages of 16 and 60 may be an important economic source. If one member is disabled, the probability of poverty will increase by about 0.030, which is very high compared with the other variables. The estimated coefficient of the variable “households with unhealthy members between the ages of 16 and 60” was not significant but it was positive and it weakly raised the probability of poverty.

Participation in non-agricultural work can greatly reduce the probability of poverty. The anti-poverty effect of business income was about 3 times that of agricultural wages in 2002. However, in 2013 the effect of agricultural wages on alleviating poverty was about twice that of business income. During the recent period, agricultural wages have been more effective in reducing poverty. In the model, the coefficients of migrant workers have a positive sign and they

are statistically significant. But we cannot say that migrant workers increase poverty. According to counterfactual analyses in other literature, the earnings of migrant workers are higher than that of onsite workers (Li, Sato, and Sicular 2013). The results of the probit model merely reflect the differences between poor households and non-poor households; they do not reveal the differences between households with migrant laborers and those without migrant laborers. Thus, the results of the probit model in this section show that the probability of poverty was greater in 2013 when outside laborers were working in other counties or other provinces. This leads to a further question—why are laborers from low-income households more likely to be working in other counties or provinces? Do they have fewer opportunities in their hometown counties?

Factors That May Raise Consumption Expenditures

In general, the proportion of children, disabled elderly and their health status, and disabled children and their health status are significantly related to the probability of poverty. In 2002 and 2013 the marginal effects of the "proportion of children" were both very large—if an ordinary household had one more child between the age of 0 and 15 (the explanatory value changes about 0.25 in 2002), its probability of poverty probability increases by about 0.05 (0.205×0.25). Even though the coefficients of the proportion of elderly are not significant in either year, the proportion of elderly has a weak positive effect on the probability according to the standard errors. Since rural social-security policies did not undergo large-scale expansion until 2007, the health problems of the elderly and of children greatly impacted the probability of poverty in 2002. The coefficients in models (1) and (4) are both significant.[10] However, rural public

[10] See Table A6.6 and Table A6.7.

services were improved in 2013, and there were many special transfer policies targeting low-income households, especially households with disabled members or members with serious health condition. Thus, the impact of disabled elderly or disabled children was no longer significant. But if the elderly had serious health problems, the probability of poverty increased. The latter may result in two consequences: first, increases in medical expenditures; second, a rise in the amount of time other members of the household must devote to health care and hence a reduction in the time available for effective work. Problems due to the aging population and the reduction in the size of households continue to exist.

[Table 6.11 about here]

VI. Discussion and Conclusions

This chapter has analyzed Chinese poverty problems during different periods based on the CHIP data. The results of the research can be summarized by the answers to the following three questions: 1.) What were the trends and achievements of anti-poverty work in China since the reform and opening? 2.) After three decades of poverty alleviation work, which segments of the population are still living in poverty? 3.) What are the most important sources of poverty? Answers to these questions allow us to evaluate the anti-poverty policies and related work in recent decades and provide ideas regarding future poverty programs.

The poverty rate in China has been decreasing since the reform and opening policies. Three phenomena are particularly noteworthy: 1.) The poverty gap increased after 2007, an indication that the targets of poverty alleviation work in the recent decade were the middle-low-income households but not the extreme-low income households. 2.) Poverty

alleviation is becoming more difficult and the speed of poverty reduction has been decelerating in the recent decades. 3.) Relative poverty rates have continued to rise during the past thirty years. Along with the decrease in the absolute poverty rate, the relative poverty problem will gradually become more prominent. According to a regional comparison, we find regional differences in the speed of poverty reduction. The speed of poverty reduction in the Eastern and Central regions was higher than that in the Western region between 1995 and 2002 but it was lower between 2002 and 2013. The relative poverty rate in the Central region has increased notably in the recent decades.

Our findings show that the quality of household laborers is a very important source of stable income. We should pay more attention to the proportion of disabled, unhealthy, and other ineffective laborers. It will also be difficult for households in mountainous areas to overcome poverty. The design of suitable policies should take these issues into consideration. Non-agricultural work has a significant impact on raising income levels. According to the literature, the proportions of migrants in poor and non-poor households are similar, but migrant workers are still an effective way to raise incomes. The problem of unhealthy elderly significantly impacts the poverty status of rural households. Along with the aging population, elderly-related policies are very important. In terms of children, their proportions may raise consumption expenditures and thus will have an impact on the probability of poverty.

In an attempt to solve China's poverty problems, the Chinese government declared the goal of not worrying about food and clothing, and guaranteeing compulsory education, basic medical care, and housing by the year 2020. This goal not only considers absolute poverty (not worrying about food and clothing) but also focuses on the quality of life. The results in this chapter reveal the specific features that need to be incorporated in the design of suitable poverty alleviation

policies in the new period. Additionally, some important variables that were significant in 2002 but were not significant in 2013 still should not be ignored. These reflect the distinctiveness and focus of the new goals. To solve these special problems, specific anti-poverty measures should be designed and integrated to meet the poverty alleviation challenges.

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Appendix

Table A6.1. ***Poverty indexes in the existing literature, 2002–2015***

Source	Data	Standard	Index	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Guojia tongjiju (NBS), Nongye shehui jingji diaocha zongdui (2015)	Rural Household Survey by the NBS	Dire Poverty Level	FGT(0)	3.0	3.1	2.8	2.5	2.3	1.6								
		Low Poverty Level	FGT(0)	9.2	9.1	8.1	6.8	6.0	4.6	4.2	3.8	2.8					
		New Poverty Level	FGT(0)									17.2	12.7	10.2	8.5	7.2	5.7
World Bank	National consumption data from the NBS; urban and rural combination; Consumption; 2011 PPP	US$1.9	FGT(0)	32.0			18.8			14.7		11.2	7.9	6.5	1.9		
		US$1.9	FGT(1)	10.2			4.9			3.9		2.7	1.8	1.4	0.4		
		US$3.1	FGT(0)	56.4			41.8			33.0		27.2	22.2	19.1	11.1		
		US$3.1	FGT(1)	23.8			14.7			11.6		9.1	6.9	5.7	2.5		
Chen and Ravallion (2008)	Subsample of the Rural Household Survey by the NBS; Consumption; 2005 PPP	US$1.25	FGT(0)	40.1		33.9	26.4										
		US$2	FGT(0)	58.4		52.2	46.7										
Luo and Sicular (2013)	China Household Income Project	US$1.25	FGT(0)	27.5					13.9								
			FGT(1)	8.4					4.7								
			FGT(2)	3.7					5.0								

		Low Poverty Level	FGT(0)	11.2	5.6		
			FGT(1)	3.0	2.3		
			FGT(2)	1.3	7.1		
		50% of the median income	FGT(0)	13.7	14.3		
			FGT(1)	3.8	4.8		
			FGT(2)	1.6	5.0		
		60% of the median income	FGT(0)	20.8	21.1		
			FGT(1)	6.0	6.9		
			FGT(2)	2.6	5.3		
Zhang et al. (2014)	China Family Panel Survey	New Poverty Level	FGT(0)			18.3	
			FGT(1)			6.5	
			FGT(2)			3.4	
	Chinese General Social Survey	New Poverty Level	FGT(0)			23.2	
			FGT(1)			8.0	
			FGT(2)			4.0	
	China Household Finance Survey	New Poverty Level	FGT(0)				26.3
			FGT(1)				9.7
			FGT(2)				5.2

Notes: 1.) NBS refers to the National Bureau of Statistics in China. 2.) Poverty levels: "$" refers to dollars per person per day, and "yuan" refers yuan per person per year. 3.) "New Poverty Levels," "Low Poverty Levels," and "Dire Poverty Levels" are 2,300 yuan at 2010 prices, 1,196 yuan at 2008 prices, and 625 yuan at 2000 prices respectively. 4.) The World Bank data are from http://data.worldbank.org. Accessed April 12, 2017. According to the World Bank descriptions, the data for 2013 and 2012 are not comparable because the NBS ALTERED its survey approach. Furthermore, the results for the World Bank data are national poverty indices, not rural indices.

Table A6.2. ***Regional poverty rates, NBS standards and relative poverty levels, 1988–2013***

		New Poverty Levels						Low Poverty Levels						Relative Poverty Levels					
		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
Eastern	1988	57.7		21.3		11.4		19.5		7.5		4.8		7.8		4.1		3.3	
	1995	37.7	(-2.86)	13.3	(-1.14)	8.1	(-0.46)	12.4	(-1.00)	4.2	(-0.46)	6.7	(0.26)	8.4	(0.08)	3.1	(-0.14)	7.9	(0.65)
	2002	15.5	(-3.17)	4.9	(-1.20)	2.3	(-0.83)	4.7	(-1.11)	1.3	(-0.41)	0.7	(-0.85)	7.1	(-0.18)	2.1	(-0.14)	1.0	(-0.98)
	2007	9.8	(-1.13)	4.4	(-0.09)	9.6	(1.46)	2.7	(-0.38)	3.3	(0.39)	23.8	(4.62)	7.3	(0.04)	3.8	(0.34)	11.3	(2.05)
	2013	4.9	(-0.82)	2.9	(-0.24)	14.4	(0.79)	1.6	(-0.19)	2.9	(-0.07)	41.3	(2.91)	9.5	(0.35)	4.2	(0.05)	9.0	(-0.36)
Central	1988	82.9		33.3		17.5		35.3		11.1		5.8		10.7		4.3		3.0	
	1995	52.3	(-4.37)	17.2	(-2.29)	8.6	(-1.27)	16.0	(-2.75)	4.7	(-0.91)	3.6	(-0.31)	10.1	(-0.08)	3.2	(-0.15)	3.4	(0.05)
	2002	30.9	(-3.05)	8.6	(-1.22)	3.6	(-0.71)	7.6	(-1.20)	1.7	(-0.42)	0.6	(-0.41)	12.2	(0.30)	3.0	(-0.02)	1.2	(-0.32)
	2007	17.7	(-2.64)	5.1	(-0.71)	2.3	(-0.25)	3.6	(-0.79)	1.1	(-0.12)	0.7	(0.01)	13.0	(0.15)	3.7	(0.12)	1.7	(0.10)
	2013	9.0	(-1.44)	3.9	(-0.19)	4.6	(0.38)	2.8	(-0.14)	2.5	(0.23)	8.1	(1.23)	18.1	(0.86)	6.6	(0.48)	4.9	(0.53)
Western	1988	88.9		40.7		22.8		48.7		15.9		7.8		16.8		5.4		3.4	
	1995	71.7	(-2.44)	28.5	(-1.74)	14.4	(-1.20)	31.9	(-2.38)	8.6	(-1.04)	3.6	(-0.60)	21.5	(0.67)	5.3	(-0.02)	2.2	(-0.16)
	2002	45.0	(-3.81)	14.5	(-1.98)	6.6	(-1.11)	13.4	(-2.64)	3.5	(-0.72)	1.4	(-0.30)	21.2	(-0.04)	5.9	(0.08)	2.4	(0.02)
	2007	30.7	(-2.86)	9.7	(-0.96)	4.6	(-0.40)	8.2	(-1.05)	2.2	(-0.26)	1.3	(-0.03)	24.1	(0.56)	7.3	(0.29)	3.4	(0.19)
	2013	12.5	(-3.03)	5.8	(-0.65)	19.5	(2.48)	3.5	(-0.78)	4.1	(0.32)	53.4	(8.69)	23.4	(-0.10)	9.1	(0.29)	13.6	(1.69)

Notes: 1.) “New Poverty Levels,” “Low Poverty Levels,” and “Relative Poverty Levels” are 2,300 yuan in 2010 prices, 1,196 yuan in 2008 prices, and 50 percent of the median income in each year respectively. 2.) The value in brackets is the average annual change in the poverty evaluation, equal to (results in the latter year – results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the CHIP rural data for 1988, 1995, 2002, 2007, and 2013.

Table A6.3. ***Regional poverty rates, World Bank standards, 1988–2013***

		US$1.9 per day						US$3.1 per day					
		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
Eastern	1988	59.0		21.8		11.7		86.1		42.4		25.3	
	1995	38.6	(-2.91)	13.7	(-1.16)	8.3	(-0.48)	68.9	(-2.46)	29.7	(-1.80)	17.1	(-1.17)
	2002	16.0	(-3.21)	5.0	(-1.23)	2.4	(-0.84)	39.7	(-4.17)	13.5	(-2.31)	6.7	(-1.48)
	2007	10.2	(-1.16)	4.5	(-0.11)	9.5	(1.41)	28.5	(-2.24)	10.1	(-0.67)	8.1	(0.26)
	2013	5.0	(-0.87)	2.9	(-0.26)	14.2	(0.78)	13.2	(-2.54)	5.2	(-0.81)	7.8	(-0.03)
Central	1988	83.7		34.1		18.0		97.8		57.0		36.6	
	1995	53.7	(-4.28)	17.8	(-2.32)	8.9	(-1.30)	86.6	(-1.59)	39.3	(-2.53)	22.0	(-2.09)
	2002	31.6	(-3.14)	9.0	(-1.25)	3.8	(-0.72)	68.4	(-2.60)	25.6	(-1.96)	12.6	(-1.34)
	2007	18.1	(-2.71)	5.3	(-0.74)	2.4	(-0.27)	47.8	(-4.10)	16.0	(-1.92)	7.6	(-0.99)
	2013	9.2	(-1.47)	4.0	(-0.21)	4.6	(0.36)	24.1	(-3.95)	8.7	(-1.20)	5.7	(-0.31)
Western	1988	89.6		41.4		23.4		98.5		62.4		42.5	
	1995	72.7	(-2.41)	29.1	(-1.74)	14.8	(-1.22)	93.5	(-0.71)	51.0	(-1.62)	31.8	(-1.54)
	2002	46.1	(-3.80)	15.0	(-2.01)	6.8	(-1.14)	80.7	(-1.82)	34.4	(-2.38)	18.6	(-1.88)
	2007	31.3	(-2.95)	10.1	(-0.99)	4.7	(-0.42)	61.2	(-3.90)	24.4	(-1.99)	12.9	(-1.13)
	2013	12.6	(-3.11)	5.9	(-0.70)	19.2	(2.41)	30.9	(-5.05)	11.8	(-2.10)	12.7	(-0.02)

Note: The value in brackets is the average annual change in the poverty evaluation, equal to (the results in the latter year – the results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the CHIP rural data for 1988, 1995, 2002, 2007, and 2013.

Table A6.4. ***Regional poverty rates with regional PPP adjustments, NBS standards and relative poverty levels, 1988–2013***

		New Poverty Levels						Low Poverty Levels						Relative Poverty Levels					
		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
Eastern	1988	63.1		24.2		13.0		23.7		8.5		5.2		8.3		4.3		3.4	
	1995	40.9	(-3.17)	14.3	(-1.41)	8.5	(-0.64)	13.5	(-1.44)	4.6	(-0.55)	6.4	(0.17)	9.1	(0.11)	3.3	(-0.14)	7.3	(0.56)
	2002	16.3	(-3.51)	4.8	(-1.35)	2.2	(-0.90)	4.0	(-1.35)	1.2	(-0.48)	0.6	(-0.82)	7.0	(-0.30)	1.9	(-0.20)	0.9	(-0.92)
	2007	10.3	(-1.18)	4.5	(-0.06)	9.6	(1.48)	2.8	(-0.25)	3.3	(0.41)	23.6	(4.59)	7.8	(0.15)	3.9	(0.39)	11.2	(2.05)
	2013	5.7	(-0.77)	3.1	(-0.22)	14.4	(0.80)	1.7	(-0.18)	2.9	(-0.06)	41.2	(2.92)	11.3	(0.59)	4.6	(0.13)	9.2	(-0.32)
Central	1988	81.0		31.7		16.5		32.6		10.3		5.5		9.9		4.1			
	1995	52.1	(-4.13)	17.2	(-2.06)	8.7	(-1.11)	15.9	(-2.38)	4.8	(-0.78)	3.7	(-0.25)	10.7	(0.11)	3.3	(-0.12)	3.5	(0.08)
	2002	32.5	(-2.80)	9.4	(-1.10)	4.0	(-0.66)	8.1	(-1.11)	2.0	(-0.40)	0.8	(-0.41)	13.5	(0.40)	3.5	(0.02)	1.4	(-0.30)
	2007	19.6	(-2.56)	5.8	(-0.73)	2.7	(-0.27)	4.3	(-0.76)	1.3	(-0.14)	0.8	(0.00)	14.8	(0.25)	4.2	(0.15)	2.0	(0.11)
	2013	10.3	(-1.55)	4.4	(-0.22)	4.8	(0.35)	3.5	(-0.12)	2.6	(0.21)	7.8	(1.16)	20.7	(0.99)	7.6	(0.55)	5.4	(0.56)
West	1988	86.0		38.5		21.5		46.4		15.0		7.4		15.7		5.2		3.3	
	1995	71.9	(-2.01)	30.2	(-1.19)	15.9	(-0.80)	36.0	(-1.48)	10.3	(-0.67)	4.4	(-0.43)	24.9	(1.31)	6.5	(0.19)	2.8	(-0.07)
	2002	51.4	(-2.92)	19.4	(-1.54)	9.8	(-0.87)	20.9	(-2.15)	6.1	(-0.59)	2.6	(-0.24)	30.5	(0.79)	9.4	(0.41)	4.2	(0.20)
	2007	35.3	(-3.22)	12.5	(-1.38)	6.3	(-0.69)	12.2	(-1.74)	3.5	(-0.52)	1.8	(-0.16)	28.7	(-0.34)	9.8	(0.07)	4.9	(0.12)
	2013	15.9	(-3.22)	6.9	(-0.91)	16.2	(1.65)	4.9	(-1.21)	4.2	(0.11)	41.1	(6.55)	27.5	(-0.19)	11.3	(0.24)	12.7	(1.31)

Notes: 1.) "New Poverty Levels," "Low Poverty Levels," and "Relative Poverty Levels" are 2,300 yuan in 2010 prices, 1,196 yuan in 2008 prices, and 50 percent of the median income in each year respectively. 2.) The value in brackets is the average annual change in the poverty evaluation, equal to (the results in the latter year – the results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the CHIP rural data for 1988, 1995, 2002, 2007, and 2013.

Table A6.5. ***Regional poverty rates with regional PPP adjustments, World Bank standards, 1988–2013***

		US$1.9 per day						US$3.1 per day					
		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
Eastern	1988	64.3		24.8		13.4		89.4		45.8		28.0	
	1995	42.1	(-3.17)	14.7	(-1.44)	8.7	(-0.66)	71.4	(-2.57)	31.6	(-2.02)	18.3	(-1.39)
	2002	16.8	(-3.61)	5.0	(-1.38)	2.3	(-0.91)	41.4	(-4.28)	14.1	(-2.50)	6.9	(-1.62)
	2007	10.8	(-1.20)	4.6	(-0.08)	9.4	(1.43)	30.1	(-2.25)	10.6	(-0.69)	8.2	(0.27)
	2013	5.8	(-0.82)	3.1	(-0.24)	14.2	(0.79)	14.9	(-2.53)	5.9	(-0.78)	8.1	(-0.01)
Central	1988	82.0		32.4		17.0		97.6		55.7		35.3	
	1995	53.3	(-4.10)	17.8	(-2.09)	8.9	(-1.14)	86.8	(-1.54)	39.2	(-2.35)	21.9	(-1.90)
	2002	33.6	(-2.81)	9.8	(-1.13)	4.2	(-0.67)	69.5	(-2.46)	26.6	(-1.80)	13.3	(-1.23)
	2007	20.3	(-2.66)	6.0	(-0.76)	2.8	(-0.29)	51.9	(-3.52)	17.5	(-1.81)	8.4	(-0.97)
	2013	10.6	(-1.61)	4.5	(-0.25)	4.8	(0.33)	26.8	(-4.17)	9.9	(-1.26)	6.3	(-0.35)
Western	1988	87.0		39.3		22.1		98.1		60.7		40.8	
	1995	72.9	(-2.01)	30.8	(-1.20)	16.3	(-0.81)	92.8	(-0.75)	51.9	(-1.25)	33.0	(-1.11)
	2002	52.7	(-2.89)	19.9	(-1.55)	10.1	(-0.89)	81.8	(-1.57)	38.8	(-1.86)	22.8	(-1.45)
	2007	36.0	(-3.33)	12.8	(-1.41)	6.5	(-0.71)	61.8	(-3.98)	27.0	(-2.35)	15.3	(-1.50)
	2013	16.2	(-3.29)	7.0	(-0.96)	16.1	(1.59)	34.7	(-4.51)	14.2	(-2.13)	12.7	(-0.42)

Note: The value in brackets is the average annual change in the poverty evaluation, equal to (the results in the latter year – the results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the CHIP rural data in 1988, 1995, 2002, 2007, and 2013.

Table A6.6. ***Results of the probit models, part A, 2002 and 2013***

	(1) 2002 Estimates	Std. Errors	dy / dx	(2) 2013 Estimates	Std. Errors	dy / dx	(3) 2013 Estimates	Std. Errors	dy / dx
Laborers									
Average Years of Education	-0.085***	(0.009)	-0.025	-0.024**	(0.010)	-0.003	-0.018*	(0.010)	-0.002
Average Health Scores	-0.047	(0.035)	-0.014	-0.015	(0.033)	-0.002	-0.017	(0.033)	-0.002
Proportion of Laborers (%)	-0.284**	(0.119)	-0.082	-0.470***	(0.122)	-0.052	-0.495***	(0.123)	-0.057
Proportion of Disabled Adults (ages 16–60) in the Household (%)	0.048	(0.101)	0.014	0.222**	(0.105)	0.029	0.216**	(0.106)	0.029
Proportion of Unhealthy Adults (ages 16–60) in the Household (%)	0.077	(0.067)	0.023	-0.011	(0.074)	-0.001	-0.017	(0.074)	-0.002
Conditions									
Land Conditions: Mountainous							0.133**	(0.055)	0.016
Clinic Existing in the Village (%)							-0.113**	(0.057)	-0.014
Distance to the County Town (km)							0.001	(0.001)	0.000
Distance to the Nearest Train/Bus Station or Wharf (km)							0.000	(0.001)	0.000
Work									
Proportion of Outside Laborers (%)									
Other Villages in the County	0.065	(0.104)	0.019	0.047	(0.091)	0.005	0.052	(0.092)	0.006
Other Counties in the Province	0.009	(0.067)	0.003	0.370***	(0.058)	0.051	0.360***	(0.059)	0.051
Other Provinces	-0.019	(0.055)	-0.005	0.428***	(0.053)	0.059	0.413***	(0.053)	0.059
Proportion of Non-Agricultural Laborers (%)									
Non-Agricultural Wages	-0.127***	(0.038)	-0.037	-0.438***	(0.047)	-0.048	-0.419***	(0.047)	-0.048
Non-Agricultural Business Income	-0.426**	(0.064)	-0.106	-0.224**	(0.063)	-0.022	-0.209**	(0.064)	-0.022

	*			*			*		
Household Structure									
Household Size									
Proportion of Children (%)	0.710***	(0.130)	0.205	0.387**	(0.155)	0.043	0.380**	(0.157)	0.044
Proportion of Elderly (%)	0.173	(0.111)	0.050	0.086	(0.092)	0.009	0.100	(0.093)	0.012
Proportion of Disabled Elderly in the Household (%)	0.459***	(0.164)	0.154	0.074	(0.131)	0.009	0.059	(0.133)	0.007
Proportion of Disabled Children in the Household (%)	0.447**	(0.216)	0.149	0.277	(0.328)	0.038	0.264	(0.327)	0.037
Proportion of Unhealthy Elderly in the Household (%)									
Proportion of Unhealthy Children in the Household (%)									
Others (control variables)									
Brick or mud houses (%)	0.246***	(0.041)	0.069	0.096**	(0.046)	0.011	0.074	(0.046)	0.009
Provinces	Yes			Yes			Yes		
Constant	-1.210***	(0.312)		-1.580***	(0.296)		-1.569***	(0.303)	
Obs.	7106			8865			8865		

Sources: Authors' calculations from the rural CHIP data for 2002 and 2013.

Table A6.7. ***Results of the probit models, part B, 2002 and 2013***

	(4) 2002 Estimates	Std. Errors	dy / dx	(5) 2013 Estimates	Std. Errors	dy / dx	(6) 2013 Estimates	Std. Errors	dy / dx
Laborers									
Average Years of Education	-0.086***	(0.009)	-0.025	-0.025***	(0.010)	-0.003	-0.019*	(0.010)	-0.002
Average Health Scores	-0.036	(0.035)	-0.010	-0.001	(0.033)	0.000	-0.003	(0.034)	0.000
Proportion of Laborers (%)	-0.259**	(0.120)	-0.075	-0.430***	(0.124)	-0.048	-0.457***	(0.125)	-0.053
Proportion of Disabled Adults (ages 16–60) in the Household (%)	0.051	(0.101)	0.015	0.232**	(0.105)	0.030	0.225**	(0.106)	0.031
Proportion of Unhealthy Adults (ages 16–60) in the Household (%)	0.079	(0.067)	0.023	-0.013	(0.074)	-0.001	-0.020	(0.074)	-0.002
Conditions									
Land Conditions: Mountainous							0.130**	(0.055)	0.016
Clinic Existing in the Village (%)							-0.111*	(0.057)	-0.014
Distance to the County Town (km)							0.001	(0.001)	0.000
Distance to the Nearest Train/Bus Station or Wharf (km)							0.000	(0.001)	0.000
Work									
Proportion of Outside Laborers (%)									
Other Villages in the County	0.068	(0.104)	0.020	0.044	(0.092)	0.005	0.049	(0.092)	0.006
Other Counties in the Province	0.012	(0.067)	0.003	0.364***	(0.058)	0.050	0.355***	(0.059)	0.050
Other Provinces	-0.020	(0.055)	-0.006	0.420***	(0.053)	0.058	0.405***	(0.053)	0.057
Proportion of Non-Agricultural Laborers (%)									
Non-Agricultural Wages	-0.130***	(0.038)	-0.038	-0.438***	(0.047)	-0.048	-0.420***	(0.047)	-0.048
Non-Agricultural Business Income	-0.431***	(0.064)	-0.107	-0.223***	(0.063)	-0.022	-0.207***	(0.064)	-0.022
Household Structure									

Household Size									
Proportion of Children (%)	0.730***	(0.130)	0.211	0.402**	(0.156)	0.044	0.391**	(0.158)	0.045
Proportion of Elderly (%)	0.114	(0.117)	0.033	0.029	(0.098)	0.003	0.045	(0.098)	0.005
Proportion of Disabled Elderly in the Household (%)									
Proportion of Disabled Children in the Household (%)									
Proportion of Unhealthy Elderly in the Household (%)	0.184**	(0.074)	0.056	0.140**	(0.070)	0.017	0.131*	(0.070)	0.016
Proportion of Unhealthy Children in the Household (%)	0.368	(0.251)	0.120	0.233	(0.245)	0.031	0.249	(0.246)	0.035
Others (control variables)									
Brick or mud houses (%)	0.250***	(0.041)	0.070	0.095**	(0.046)	0.011	0.074	(0.046)	0.009
Provinces	Yes			Yes			Yes		
Constant	-1.252***	(0.312)		-1.655***	(0.299)		-1.642***	(0.305)	
Obs.	7106			8865			8865		

Sources: Authors' calculations based on the rural CHIP data for 2002 and 2013.

Table 6.1. ***Poverty standards, yuan per person per year***

Year	World Bank		Official Chinese		Relative Poverty Level
	US$1.9 per day	US$3.1 per day	Low Poverty Level	New Poverty Level	
1988	661	1078	368	651	229
1995	1534	2504	855	1510	723
2002	1547	2524	**869**	1522	1045
2007	1988	3244	**1067**	1957	1712
2013	2760	4503	1505	**2736**	4308

Notes: 1.) The poverty standards in the table were adjusted by the PPP from the 2011 International Comparison Program; the PPP values are found in the World Bank database. 2.) The "New Poverty Level," "Low Poverty Level," and "Relative Poverty Level" are 2,300 yuan at 2010 prices, 1,196 yuan at 2008 prices, and 50 percent of the median income in each year respectively. 3.) The values of the World Bank standards, the "New Poverty Level" in 1988, 1995, 2002, and 2007, and the "Low Poverty Level" in 1988, 1995, and 2013 are adjusted by the CPI of the rural poor households, as introduced in Section 2.A.
Sources: Authors' calculations.

Table 6.2. ***Poverty rates, World Bank standards, 1988–2013 (percentages)***

	US$1.9 per day						US$3.1per day					
	FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
1988	76.5		31.8		17.3		93.8		53.3		34.3	
1995	54.3	(-3.16)	19.9	(-1.70)	10.5	(-0.97)	82.7	(-1.58)	39.6	(-1.95)	23.3	(-1.56)
2002	31.2	(-3.29)	9.7	(-1.45)	4.3	(-0.88)	63.0	(-2.80)	24.5	(-2.16)	12.6	(-1.52)
2007	19.8	(-2.28)	6.6	(-0.61)	5.5	(0.23)	45.9	(-3.43)	16.8	(-1.53)	9.5	(-0.62)
2013	8.9	(-1.81)	4.2	(-0.38)	12.5	(1.16)	22.8	(-3.85)	8.6	(-1.36)	8.7	(-0.13)

Note: The values in brackets are the average annual percentage point reduction in the poverty indexs, equal to (the results in the latter year – the results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the rural CHIP data for 1988, 1995, 2002, 2007, and 2013.

Table 6.3. ***Poverty rates, NBS standards and relative standards, 1988–2013 (percentages)***

	New Poverty Level						Low Poverty Level						Relative Poverty Level					
	FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
1988	75.6		31.1		16.9		33.6		11.2		6.0		11.5		4.6		3.2	
1995	53.3	(-3.18)	19.3	(-1.68)	10.2	(-0.95)	19.7	(-1.98)	5.7	(-0.78)	4.6	(-0.19)	13.0	(0.22)	3.8	(-0.10)	4.6	(0.19)
2002	30.5	(-3.25)	9.3	(-1.42)	4.1	(-0.86)	8.5	(-1.59)	2.2	(-0.50)	0.9	(-0.53)	13.4	(0.06)	3.6	(-0.02)	1.5	(-0.43)
2007	19.4	(-2.22)	6.4	(-0.59)	5.4	(0.25)	4.8	(-0.74)	2.2	(0)	8.4	(1.50)	14.7	(0.25)	4.9	(0.25)	5.4	(0.77)
2013	8.8	(-1.76)	4.2	(-0.36)	12.6	(1.19)	2.6	(-0.36)	3.1	(0.16)	33.6	(4.19)	17.0	(0.38)	6.6	(0.28)	9.1	(0.61)

Notes: 1.) "New Poverty Level," "Low Poverty Level," and "Relative Poverty Level" are respectively 2,300 yuan in 2010 prices, 1,196 yuan in 2008 prices, and 50 percent of the median income in each year. 2.) The values in brackets are the average annual percentage point change, equal to (the results in the latter year – the results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the rural CHIP data for 1988, 1995, 2002, 2007, and 2013.

Table 6.4. ***Regional poverty rates, new poverty level, 1988–2013(percentages)***

		New Poverty Level					
		FGT(0)		FGT(1)		FGT(2)	
Eastern	1988	57.7		21.3		11.4	
	1995	37.7	(-2.86)	13.3	(-1.14)	8.1	(-0.46)
	2002	15.5	(-3.17)	4.9	(-1.20)	2.3	(-0.83)
	2007	9.8	(-1.13)	4.4	(-0.09)	9.6	(1.46)
	2013	4.9	(-0.82)	2.9	(-0.24)	14.4	(0.79)
Central	1988	82.9		33.3		17.5	
	1995	52.3	(-4.37)	17.2	(-2.29)	8.6	(-1.27)
	2002	30.9	(-3.05)	8.6	(-1.22)	3.6	(-0.71)
	2007	17.7	(-2.64)	5.1	(-0.71)	2.3	(-0.25)
	2013	9.0	(-1.44)	3.9	(-0.19)	4.6	(0.38)
Western	1988	88.9		40.7		22.8	
	1995	71.7	(-2.44)	28.5	(-1.74)	14.4	(-1.20)
	2002	45.0	(-3.81)	14.5	(-1.98)	6.6	(-1.11)
	2007	30.7	(-2.86)	9.7	(-0.96)	4.6	(-0.40)
	2013	12.5	(-3.03)	5.8	(-0.65)	19.5	(2.48)

Notes: 1.) The "New Poverty Level" is 2,300 yuan in 2010 prices. 2.) The values in brackets are the average annual changes in the poverty rates, equal to (the results in the latter year – the results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the rural CHIP data for 1988, 1995, 2002, 2007, and 2013.

Table 6.5. ***Poverty rates with PPP adjustments, World Bank standards, 1988–2013 (percentages)***

	US$1.9 per day						US$3.1 per day					
	FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
1988	77.1		31.7		17.2		94.8		53.6		34.3	
1995	55.4	(-3.09)	20.7	(-1.56)	11.1	(-0.86)	83.3	(-1.63)	40.5	(-1.87)	24.1	(-1.46)
2002	34.3	(-3.02)	11.5	(-1.31)	5.5	(-0.80)	64.3	(-2.71)	26.5	(-2.00)	14.3	(-1.39)
2007	22.3	(-2.40)	7.8	(-0.75)	6.1	(0.13)	48.0	(-3.25)	18.4	(-1.61)	10.6	(-0.73)
2013	10.9	(-1.90)	4.9	(-0.48)	11.5	(0.89)	25.5	(-3.74)	10.0	(-1.39)	9.0	(-0.27)

Notes: The values in brackets are the average annual changes in the poverty evaluations. They are equal to (the results in the latter year – the results in the former year)/(the years between the former year and the latter year).
Sources: Calculated from the rural CHIP data for 1988, 1995, 2002, 2007, and 2013.

Table 6.6. ***Poverty rates with PPP adjustments, NBS standards, 1988–2013 (percentages)***

	New Poverty Levels						Low Poverty Levels						Relative Poverty Levels					
	FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)		FGT(0)		FGT(1)		FGT(2)	
1988	76.0		31.0		16.7		33.5		11.0		5.9		11.1		4.5		3.2	
1995	54.3	(-3.09)	20.2	(-1.54)	10.8	(-0.84)	21.3	(-1.74)	6.4	(-0.66)	4.8	(-0.16)	14.5	(0.49)	4.3	(-0.03)	4.6	(0.19)
2002	33.3	(-3.00)	11.2	(-1.29)	5.3	(-0.79)	10.9	(-1.47)	3.1	(-0.47)	1.3	(-0.49)	16.9	(0.33)	4.9	(0.08)	2.1	(-0.35)
2007	21.7	(-2.32)	7.5	(-0.72)	6.1	(0.16)	6.4	(-0.91)	2.7	(-0.08)	8.6	(1.45)	17.0	(0.03)	5.9	(0.20)	5.9	(0.75)
2013	10.6	(-1.84)	4.8	(-0.45)	11.6	(0.92)	3.4	(-0.50)	3.2	(0.09)	29.5	(3.48)	19.9	(0.47)	7.8	(0.31)	9.0	(0.51)

Notes: 1.) The "New Poverty Level," "Low Poverty Level," and "Relative Poverty Level" were 2,300 yuan in 2010 prices, 1,196 yuan in 2008 prices, and 50 percent of the median income in each year. 2.) The values in brackets are the average annual changes in the poverty rates. They are equal to (the results in the latter year – the results in the former year)/(the years between the former and latter years).
Sources: Calculated from the rural CHIP data for 1988, 1995, 2002, 2007, and 2013.

Table 6.7. ***The impact of regional prices on poverty rates, 1988–2013***

		FGT(0)			FGT(2)		
		PPP	noPPP	Ratio	PPP	noPPP	Ratio
All	1988	76.0	75.6	100.5	16.7	16.9	98.8
	1995	54.3	53.3	101.9	10.8	10.2	105.9
	2002	33.3	30.5	109.2	5.3	4.1	129.3
	2007	21.7	19.4	111.9	6.1	5.4	113.0
	2013	10.6	8.8	120.5	11.6	12.6	92.1
Eastern	1988	63.1	57.7	109.4	13.0	11.4	114.0
	1995	40.9	37.7	108.5	8.5	8.1	104.9
	2002	16.3	15.5	105.2	2.2	2.3	95.7
	2007	10.3	9.8	105.1	9.6	9.6	100.0
	2013	5.7	4.9	116.3	14.4	14.4	100.0
Central	1988	81.0	82.9	97.7	16.5	17.5	94.3
	1995	52.1	52.3	99.6	8.7	8.6	101.2
	2002	32.5	30.9	105.2	4.0	3.6	111.1
	2007	19.6	17.7	110.7	2.7	2.3	117.4
	2013	10.3	9.0	114.4	4.8	4.6	104.3
Western	1988	86.0	88.9	96.7	21.5	22.8	94.3
	1995	71.9	71.7	100.3	15.9	14.4	110.4
	2002	51.4	45.0	114.2	9.8	6.6	148.5
	2007	35.3	30.7	115.0	6.3	4.6	137.0
	2013	15.9	12.5	127.2	16.2	19.5	83.1

Notes: 1.) We use the "New Poverty Level" in this table. 2.) "PPP" refers to the adjusted poverty rates, whereas "noPPP" refers to the unadjusted poverty rates. 3.) The ratio is equal to (PPP results)/(No PPP results) × 100%.
Sources: Calculated from the rural CHIP data for 1988, 1995, 2002, 2007, and 2013.

Table 6.8. ***Income sources in poor and non-poor households***

Year	Items	National		East		Central		West	
		Poor	**Non-Poor**	**Poor**	**Non-Poor**	**Poor**	**Non-Poor**	**Poor**	**Non-Poor**
2002	Per capita disposable income (yuan)	1326	3723	1077	4061	1115	2763	1049	2533
	Wage income (%)	23.07	33.76	28.88	46.44	29.28	32.33	27.56	31.66
	Net business income (%)	58.74	51.55	69.86	51.70	73.35	68.41	72.36	66.60
	Primary (%)	53.44	37.92	61.02	33.37	66.85	52.84	66.62	56.54
	Secondary (%)	1.45	4.77	1.23	6.92	2.41	5.32	1.48	2.46
	Tertiary (%)	2.55	7.36	5.06	9.67	3.01	8.25	2.60	6.22
	Net property income (%)	0.06	0.59	0.04	1.15	0.09	0.29	0.08	0.14
	Net transfer income (%)	-0.66	0.31	1.22	0.70	-2.72	-1.03	0.00	1.60
2013	Per capita disposable income (yuan)	3314	13659	1967	13504	1825	9464	1886	9012
	Wage income (%)	13.26	34.51	34.37	51.82	25.46	43.30	17.71	32.40
	Net business income (%)	23.40	28.66	37.11	32.60	39.09	34.80	44.56	45.28
	Primary (%)	21.92	18.13	37.94	17.24	34.61	22.36	42.04	33.74
	Secondary (%)	0.52	2.70	-4.08	4.61	4.15	3.24	0.40	1.80
	Tertiary (%)	0.96	7.83	3.26	10.75	0.33	9.20	2.12	9.75
	Net property income (%)	0.22	4.44	2.61	6.14	-2.11	4.97	1.40	5.72
	Net transfer income (%)	19.78	10.68	25.91	9.44	37.56	16.94	36.34	16.60

Sources: Authors' calculations from the 2002 and 2013 rural CHIP data.

Table 6.9. ***The poverty reduction effects from transfer income, 2013***

Per capita income	National		Eastern		Central		Western	
	FGT(0)	Change	FGT(0)	Change	FGT(0)	Change	FGT(0)	Change
Excluding transfer Income	24.67		15.8		26.31		30.68	
+ Private transfers	12.69	-11.98	7.69	-8.11	13.07	-13.24	16.66	-14.02

+ Retirement payments	11.65	-1.04	6.91	-0.78	11.70	-1.37	15.77	-0.89
+ New rural pensions	10.67	-0.98	6.03	-0.88	10.54	-1.16	14.90	-0.87
+ Other pensions	10.56	-0.11	5.84	-0.19	10.48	-0.06	14.79	-0.11
+ Minimum living guarantee	9.92	-0.64	5.35	-0.49	9.96	-0.52	13.91	-0.88
+ Reimbursements	9.70	-0.22	5.23	-0.12	9.51	-0.45	13.83	-0.08
+ Cash subsidies	9.50	-0.20	5.19	-0.04	9.40	-0.11	13.42	-0.41
+ In-kind subsidies	9.34	-0.16	5.11	-0.08	9.08	-0.32	13.35	-0.07
+ Direct food subsidies	8.87	-0.47	4.95	-0.16	8.45	-0.63	12.77	-0.58
+ Subsidies for returning farmland to forests and grassland	8.76	-0.11	4.91	-0.04	8.38	-0.07	12.55	-0.22
+ Other policy subsidies	8.43	-0.33	4.43	-0.48	8.21	-0.17	12.08	-0.47

Notes: 1.) The poverty standard in this table is the "new poverty level." 2.) The final poverty rate in this table is somewhat different from that elsewhere in this chapter. The main reason is that Li, Zhan and Yang (2016) applied different weights to consider the distribution of low-income households.

Source: Li, Zhan, and Yang (2016).

Table 6.10. ***Characteristics of poor and non-poor households, 2002–2013***

	2002			2013		
	Pov	No-Pov	Ratio	Pov	No-Pov	Ratio
Laborers						
Average Years of Education	7.06	7.90	0.89***	7.68	8.25	0.93***
Average Health Scores	3.93	4.03	0.97***	3.95	4.03	0.98
Proportion of Laborers (%)	65.76	69.73	0.94***	64.87	67.74	0.95***
Proportion of Households with Disabled Adults (ages 16–60) (%)	4.77	3.39	1.40**	5.83	3.17	1.83***
Proportion of Households with Unhealthy Adults (ages 16–60) (%)	12.81	8.99	1.42***	14.95	10.41	1.43***
Conditions						
Land Conditions: Mountainous				34.88	22.10	1.57***
Roads (%)				99.10	99.26	0.99
Clinics Existing in the Village (%)				82.02	87.14	0.94***
Distance to the County Town (km)				30.32	23.80	1.27***
Distance to the Nearest Train/Bus Station or Wharf (km)				18.37	15.83	1.16***
Work						
Proportion of Outside Laborers (%)	25.49	28.57	0.89**	57.55	34.86	1.65***
To Other Villages in the County	3.18	3.70	0.85*	5.80	5.00	1.16
To Other Counties in the Province	8.21	10.94	0.75***	21.60	14.08	1.53***
To Other Provinces	18.25	16.39	1.11*	35.30	17.80	1.98***
Proportion of Non-Agricultural Laborers (%)	48.04	65.67	0.73***	30.69	59.78	0.51***
Non-Agricultural Wage Income	38.11	50.99	0.74***	21.64	49.27	0.43***
Non-Agricultural Business Income	4.83	11.78	0.40***	11.03	18.42	0.59***
Household Structure						
Household Size	4.87	4.28	1.13***	5.01	4.19	1.19***
Proportion of Disabled (%)	1.80	1.45	1.24***	2.16	1.60	1.35***
Proportion of Children (%)	24.47	19.70	1.24***	21.56	18.59	1.16***
Proportion of Elderly (%)	9.09	7.77	1.17***	13.02	12.08	1.07***
Proportion of Disabled Elderly (%)	2.20	0.92	2.39***	3.02	2.24	1.35*

Proportion of Disabled Children (%)	0.90	0.48	1.88**	0.61	0.29	2.12
Proportion of Unhealthy Elderly (%)	10.97	7.05	1.55***	18.22	10.30	1.76***
Proportion of Unhealthy Children (%)	1.39	0.36	3.89***	0.98	0.49	1.99
Expenditures						
Share of Medical Expenditures (%)	5.45	5.58	0.97***	7.34	8.40	0.87***
Share of Educational Expenditures (%)	9.17	7.44	1.23***	9.49	10.04	0.94***
Others						
Brick or mud houses (%)	72.10	63.44	1.13***	41.43	33.33	1.24***

Notes: 1.) "Health Scores" are derived from the following question in the CHIP survey: "What was your health situation last year?"; the options were "very bad," "bad," "okay," "good," and "very good." These answers were transferred into scores between 1 and 5 respectively. 2.) The asterisks ***, **, and * indicate that the significant probability of the T-test was less than 0.01, 0.05, and 0.10 respectively.
Sources: Authors' calculations from the rural CHIP data for 2002 and 2013.

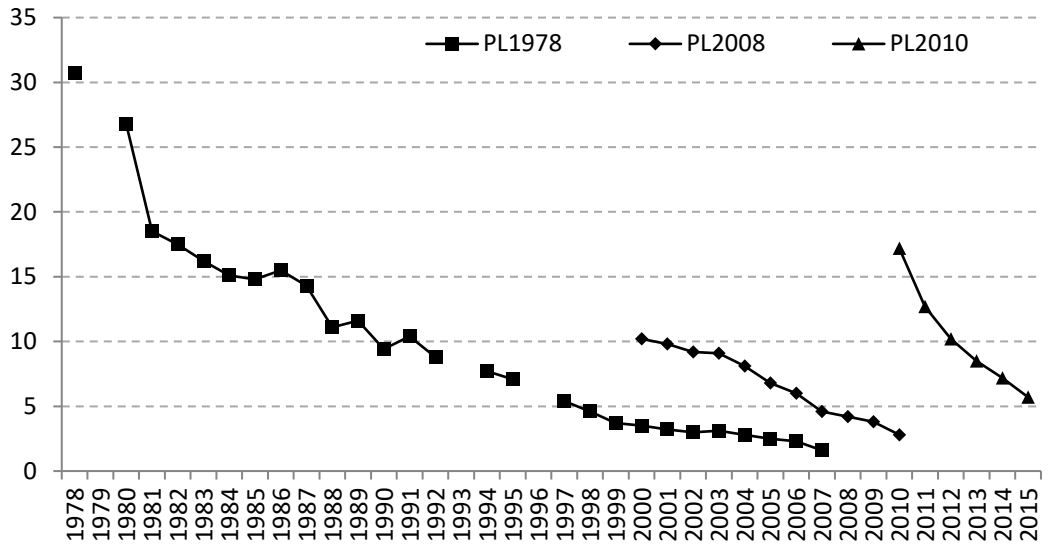
Table 6.11. ***Results of the probit models, 2002 and 2013***

	2002			2013		
	Estimates	Std. Errors	dy / dx	Estimates	Std. Errors	dy / dx
Laborers						
Average Years of Education	-0.086***	(0.009)	-0.025	-0.019*	(0.010)	-0.002
Average Health Scores	-0.036	(0.035)	-0.010	-0.003	(0.034)	0.000
Proportion of Laborers (%)	-0.259**	(0.120)	-0.075	-0.457***	(0.125)	-0.053
Proportion of Disabled Adults (ages 16–60) in the Household (%)	0.051	(0.101)	0.015	0.225**	(0.106)	0.031
Proportion of Unhealthy Adults (ages 16–60) in the Household (%)	0.079	(0.067)	0.023	-0.020	(0.074)	-0.002
Conditions						
Land Conditions: Mountainous				0.130**	(0.055)	0.016
Clinic Exiting in the Village (%)				-0.111*	(0.057)	-0.014
Distance to the County Town (km)				0.001	(0.001)	0.000
Distance to the Nearest Train/Bus Station or Wharf (km)				0.000	(0.001)	0.000
Work						
Proportion of Outside Laborers (%)						
Working in Other Villages in the County	0.068	(0.104)	0.020	0.049	(0.092)	0.006
Working in Other Counties in the Province	0.012	(0.067)	0.003	0.355***	(0.059)	0.050
Working in Other Provinces	-0.020	(0.055)	-0.006	0.405***	(0.053)	0.057
Proportion of Non-Agricultural Laborers (%)						
Non-Agricultural Wages	-0.130***	(0.038)	-0.038	-0.420***	(0.047)	-0.048
Non-Agricultural Business Income	-0.431***	(0.064)	-0.107	-0.207***	(0.064)	-0.022
Household Structure						
Household Size						
Proportion of Children (%)	0.730***	(0.130)	0.211	0.391**	(0.158)	0.045
Proportion of Elderly (%)	0.114	(0.117)	0.033	0.045	(0.098)	0.005
Proportion of Disabled Elderly in the Household (%)						
Proportion of Disabled Children in the Household (%)						
Proportion of Unhealthy Elderly in the Household (%)	0.184**	(0.074)	0.056	0.131*	(0.070)	0.016
Proportion of Unhealthy Children in the Household (%)	0.368	(0.251)	0.120	0.249	(0.246)	0.035

Others (control variables)						
Brick or mud houses (%)	0.250***	(0.041)	0.070	0.074	(0.046)	0.009
Provinces	Yes			Yes		
Constant	-1.252***	(0.312)		-1.642***	(0.305)	
Obs.	7106			8865		

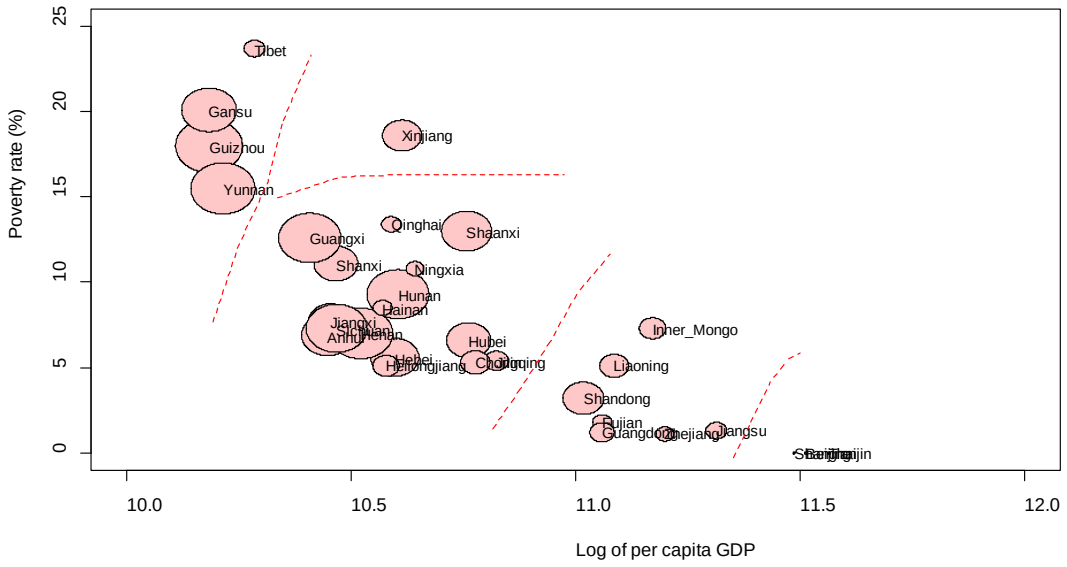
Sources: Authors' calculations based on the rural CHIP data for 2002 and 2013.

Figure 6.1. ***Poverty rate trends in China, 1978–2015 (percentages)***



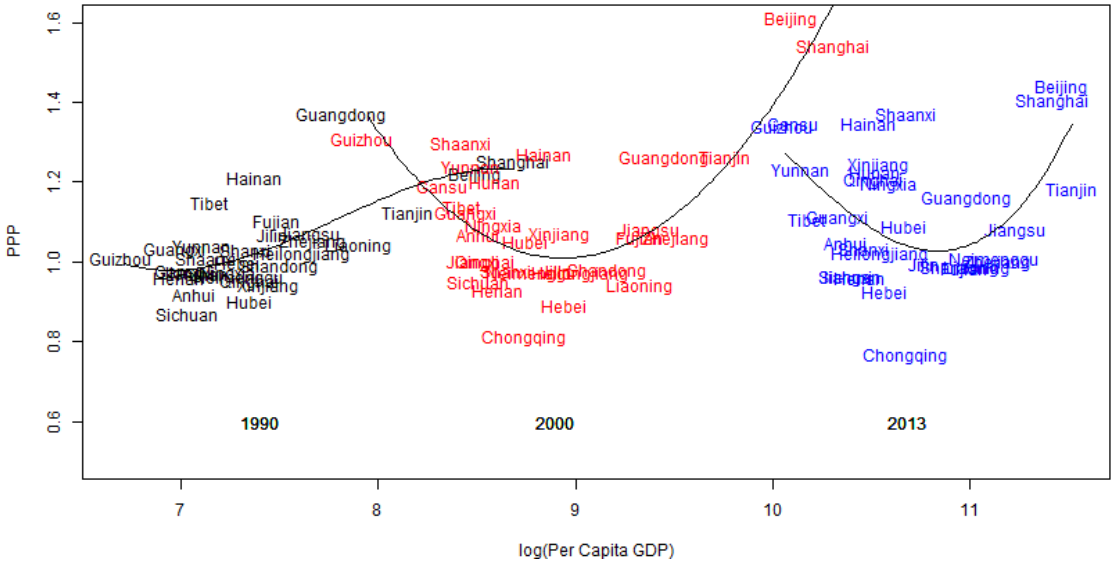
Source: National Bureau of Statistics.

Figure 6.2. ***Regional poverty rates in China, 2014***



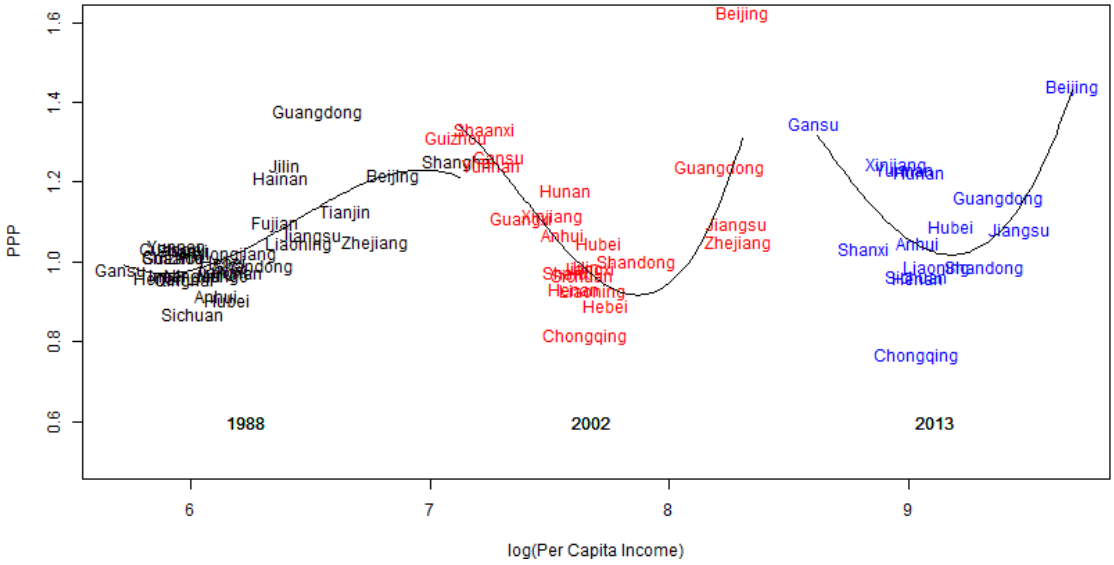
Note: The area around the circles reflects the provincial poverty population.
Sources: The provincial poverty populations and rates come from the Leading Group of the Office of Poverty Alleviation and Development of the State Council. The log per capita GDP comes from the NBS website.

Figure 6.3. ***The relationship between PPP and per capita GDP (log) at the provincial level, 1990–2013***



Note: The lines in the figure are the fitted cubic polynomial curves.
Sources: The regional PPP is from Brandt and Holz (2006) with further calculatations by the authors. Per capita GDP is from the NBS.

Figure 6.4. ***The relationship between PPP and per capita income (log) at the provincial level, 1988–2013***



Note: The lines in the figure are the fitted cubic polynomial curves.
Sources: The regional PPP is from Brandt and Holz (2006) with further calculations by the authors. Per capita income is calculated from the 1988, 2002, and 2013 CHIP data.